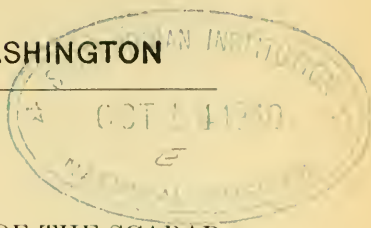


PROCEEDINGS  
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TEN NEW NEOTROPICAL BEETLES OF THE SCARAB  
GENUS *PHYLLOPHAGA*.

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In this paper are described the following new species of  
*Phyllophaga*:

*Phyllophaga* (? *Chirodines*) *oaxena*, new species.

*Male*.—Elongate oval. Dull rufocastaneous, the thorax slightly shining. Above entirely clothed with short, dense, suberect, brownish hairs, those of head a little longer and more erect. Clypeus and front coarsely, rugosely, very densely and contiguously punctate. Clypeus very short, somewhat semicircular in outline though transverse, the apical margin slightly reflexed. Antenna uni-colorous, 10 segmented; club very slightly longer than the entire stem, segments 3-7 each slightly transverse. Thorax with sides entire, and straight, before and behind the moderate median dilation, with several scattered cilia; base without marginal line; front angles rectangular to nearly subacute; hind angles obtusely angulate; disc with fine, dense, regularly placed punctures over the entire surface, with a faint suggestion of a median longitudinal carina. Elytron without stria except for the well-developed sutural stria, the latter obsolescent at base; disc subrugose, punctured as thorax. Pygidium convex, pruinose, with very fine, dense and regularly placed punctures, each with a short erect hair; apical margin explanate and somewhat reflexed. Abdomen with short, dense, suberect pile; middle widely and shallowly concave; 5th segment flattened, the apex arcuate and faintly produced, the disc with a very dense patch of fine, though somewhat transverse, granulations; 6th nearly as long as the 5th, and raised a little above it,—disc of 6th impressed transversely, apex carinate and ciliate, the base sinuate at middle and raised and produced slightly, the center of the sinuation reaching apically and nearly attaining the apical margin of the segment. First segment hind tarsi shorter than the second. Hind tibial spurs acute and unequal, one two-fifths longer than the other, and slightly distorted. Transverse carina on mid tibia only about half complete, external margin not serrate; carina of hind tibia very faintly indicated and not entire. Segments 1-4 of front tarsus with the inner apex of each segment prolonged into a broadly rounded

lobe-like tooth, that of the first segment the largest and the following becoming progressively shorter. Male genitalia small and simple, of the complete ring-shaped type, and bilaterally symmetrical. Claws of all the tarsi entirely simple, with at most a trace of a very fine serration on the lower margin; the outer claw of each front tarsus with a faint trace of a tiny tooth placed basad from the middle of the claw. Length 20.5 mm. Width 10.3 mm.

The unique male *Holotype*, which remains in the Saylor Collection, is from "Oaxaca, Mexico." This very interesting species presents somewhat of a problem as to its proper place in our taxonomic sequence of subgenera and species. Its affinities approach *Chirodines* the closest, though I leave it here with reserve. The new species differs especially from *Chirodines zunilensis* Bates (only described species in that genus) in the weak and obsolete tibial carina (as opposed to strong and entire carina), in the basically different type of genitalia, and in more minor details of the claws and pilosity of the dorsal surface.

**Phyllophaga (? Phyllophaga) apolinari, new species.**

*Male*.—Elongate, subparallel. Dark piceocastaneous, slightly shining and glabrous dorsally. Front and clypeus with coarse variolate punctures, those of front sparse and those of clypeus smaller and much denser. Front below vertex with a transverse gibbose elevation running from eye to eye, the surface of this subcariniform area rugosely and densely punctate, the area behind on vertex and occiput with extremely dense and very fine punctures. Clypeus very short, broad, and transverse, apex widely and shallowly emarginate, the angles very broadly rounded, margin not reflexed; center of disc at base impunctate. (Antenna lacking in unique type.) Labrum quite large and very deeply and narrowly incised, thus appearing strongly bilobate. Sides of thorax very arcuate, the widest point just behind the middle; sides crenate in anterior half, simple behind; hind angles broadly rounded, front angles produced and rectangular; front margin not thickened, posterior margin obsolete near middle; disc with fine, moderately-sparse, irregularly-placed, and variolate punctures, these separated by one to four times their diameters on disc and closer at sides and near front, center disc with small, irregular impunctate area. Elytron with four well-marked stria in addition to the well-developed sutural stria; first stria complete, oblique, and strongly widened apically; 2nd stria parallel to first; 3rd narrow and running from the humeral umbo to the apical umbo; 4th narrow and running from the humeral umbo down to the lateral margin and then running along parallel to the latter; first three striae becoming obsolete apically at the apical umbo; disc rugosely punctured, the punctures moderately dense. Pygidium polished and slightly convex, punctures dense, coarse, variolate, and regularly placed; apex broadly rounded and not ciliate. Abdomen polished, gibbose, and nude at middle, the sutures hardly obvious, entire 5th segment transversely impressed, sparsely punctate, the sides pruinose and pilose; 6th segment three-fifths the length of 5th, flat, with moderately coarse and somewhat sparse punctures. First segment of hind tarsus distinctly longer than, and larger

than, the second. Hind spurs free and graceful, the longest one much longer than the first segment of the hind tarsus. Transverse carina of hind tibia well marked and complete, the inner edge of it prolonged into a short, sharp lobe. First segment of mid tarsus equal to the next two combined; transverse carina completely lacking, evidenced only at each side margin by a sharp lobe. Inner lower edge of front femora strongly produced inwardly into a sharp, robust "spur." All tarsi with a sharp median tooth, the base obtusely dilated. Male genitalia very peculiar for the genus: lateral lobes soldered together into a broad tube, from the lower outer apex of which emerge two long and slender projections which converge towards the center and touch tips there; aedeagus with a strong globose structure at each side, these structures projecting halfway out of the inside of the lateral lobes and tip of each with a sharp tooth which projects outwardly. Length 29 mm. Width 14.5 mm.

The unique male *Holotype*, in the Saylor Collection, was given to me by Mr. Apolinar-Maria who collected the specimen at "Saigon, Columbia." Although this species appears to be more similar to certain Oriental forms of the genus, I do not doubt that it is correctly labeled since I received it unmounted from the collector along with a number of species all of which were without doubt of Columbian origin. I leave it in the present subgenus with much doubt, since the non-carinated middle tibia, the very different type of male genitalia and the subcarinate vertex, appear to mark out a definite group of its own.

**Phyllophaga (Phyllophaga) rolbakeri**, new species.

*Male*.—Elongate, subparallel. Black, legs somewhat rufopiceous. Moderately shining above and apparently nude. Clypeus and front very densely, coarsely and entirely punctate; upper half of front and vertex impunctate. Clypeus shallowly and widely emarginate apically, the angles extremely broadly rounded. Antenna 10-segmented; club small and ovate, equal to segments 4-7 combined. Thorax with sides subparallel behind the median dilation and nearly entire; front and hind angles nearly rectangular; basal margin widely interrupted at middle; disc with an irregular longitudinal smooth area at middle, remainder with moderately dense, coarse, and umbilicate punctures. Each clytron with two striae other than the sutural; sutural stria slightly narrower at base, first stria oblique and very distinctly wider apically, the second stria of nearly equal length throughout and also obliquely placed; disc punctured as thorax and somewhat rugosely so. Pygidium convex, rugose, the punctures coarse, umbilicate and somewhat sparse, with very small and erect, sparse hairs. Abdomen moderately convex, highly polished and nude at middle; 5th segment slightly transversely impressed just before the apex, with moderately dense and somewhat fine punctures at middle; 6th segment one-half length of 5th, and transversely impressed and the surface minutely granulate. All claws with a strong, long, median tooth, the basal dilation rectangular. First two segments of front tarsi each with a small spine at inner apex. Second segment of tarsus of hind leg slightly longer than the first. Hind spurs free



and graceful. Mentum with a moderately-wide, well-marked, V-shaped impression. Male genitalia simple, bilaterally symmetrical, and the two lateral lobes slender and somewhat parallel moderately widely separated at apex. Length 26 mm. Width 11.7 mm.

The unique male *Holotype*, from "Buena Vista, Encantada, Coahuila, Mexico, 6000 feet, July 7, 1938, R. H. Baker collector" is in the Saylor Collection. This fine species, which is nearest *atra* Moser but quite distinct from it, is named for my good friend Rollin H. Baker, of Texas, who collected and presented the specimen to me.

**Phyllophaga (Phyllophaga) ginigra**, new species.

*Male*.—Elongate and subparallel. Entirely black, shining, and apparently glabrous above. Clypeus and front moderately coarsely, densely and variolately punctate. Clypeus short, subrugosely punctate, apex very narrowly emarginate in the shape of a shallow U at center, the angles extremely broadly rounded. Antenna 10-segmented; club very small, scarcely equal to segments 3-7 in length. Thorax with sides straight each side of the median dilation, margin entire and not ciliate; front angles and hind angles obtuse but nearly rectangular; basal margin nearly obsolete at middle; disc with coarse, moderately dense, and umbilicate punctures, the center disc with a longitudinal, median, impunctate area. Scutellum with very dense and smaller punctures at sides, center impunctate. Elytron with sutural stria noticeably broader apically and with one other strongly oblique stria on each elytron; disc densely, coarsely and umbilicately punctate; apex coarsely rugose. Pygidium apparently nude, faintly convex; disc very rugose and with sparse and umbilicate punctures, these punctures very dense along the basal margin. Abdomen strongly convex, polished, nude at middle and with fine, moderately dense punctures; 5th segment declivous apically, with a small patch of coarse punctures at center, apical one-fourth of segment transversely impressed; 6th segment shorter than 5th and transversely impressed and rugosely wrinkled. Claws short and with a strong, median, rather long tooth, the basal dilation small but rectangularly produced. Hind tibial spurs free, graceful. First two segments of hind tarsi subequal in length. Mentum very widely and longitudinally sulcate, the edges subcarinate. First two segments of front tarsi with very short inner apical spines. Male genitalia large and rather peculiar in shape, though bilaterally symmetrical; in addition to the two long and slender lateral lobes there is an overhanging (in en face view) lobe arising from the upper margin of the "ring" and reaching three-fifths the length of the lateral lobes; the aedeagus is very large and heavily chitinized. Length 26 mm. Width 12.5 mm.

The unique male *Holotype*, from "Mexico," remains in the Saylor Collection. The species is abundantly distinct from all described *Phyllophaga* known to me, but is probably nearest *atra* Moser in its affinities.

**Phyllophaga (Phyllophaga) abcea**, new species.

*Male*.—Oblong-oval, wider behind, testaceocastaneous, the head and thorax rufous. Shining above; head with the front, and the thoracic

margin, with moderately long and erect hairs, otherwise glabrous above. Clypeus and front with coarse, variolate punctures, those of front only slightly impressed, those of clypeus smaller and slightly denser; clypeus transversely subarcuate, the middle finely emarginate, margin scarcely reflexed. Antenna unicolorous castaneous, 10-segmented; club equal to segments 3-7 in length. Thorax with sides nearly entire, and straight before and behind the median dilation; base not margined; front and hind angles obtusely rounded; disc with moderately coarse and variolate, but still quite sparse, punctures. Elytron with a faint indication of a second stria other than the well-developed sutural stria, the latter obsolete at base; disc rugosely and very densely punctate. Pygidium highly polished, glabrous, very convex; disc with very sparse and scarcely impressed punctures. Abdomen robust, highly polished and nude at middle; 5th segment declivous, with a patch of fine but moderately dense granules at center; 6th segment nearly as long as 5th and transversely flattened, also with fine and moderately dense granules. First segment of hind tarsus longer than the second. Hind spurs free, graceful, shortest slightly curved. All claws short and widely cleft, the median tooth of the same proportions as apical but obliquely truncate at apex; base obtusely angulate and not produced. Male genitalia with the lateral lobes prolonged, subparallel, and not quite contiguous at tips; upper center of the ring formed by the lateral lobes with a broad projection reaching over and nearly to the tips of the lateral lobes, the apex of this projection widely lobate at each outer apical angles and the center of the projection slightly longitudinally channeled. Length 14 mm. Width 7 mm.

The unique male *Holotype*, from "Guatemala," remains in the Saylor Collection. It is most closely related to *P. parumpunctata* Bates, from which it may be separated by the dorsal pilosity, abdominal characters, larger antennal club and male genitalia.

#### **Phyllophaga (Listrochelus) valia**, new species.

*Male*.—Ovate, rufous; elytra subpruinose, otherwise shining above. Head and thorax glabrous, elytra with very sparse, short and erect hairs. Front and clypeus rather coarsely and densely punctate, the vertex with a distinct transverse carina. Clypeus subtruncate at apex and faintly reflexed, the angles somewhat narrowly rounded. Antenna rufous, 10-segmented; club testaceous, slightly longer than the funicle. Thorax with sides crenate and ciliate, sides straight before and behind the conspicuous median dilation; base with complete marginal line, apex with thickened border; front angles rectangular, hind angles very obtusely angulate; disc with moderately dense, somewhat fine, variolate punctures, these much closer at front and sides. Elytron with sutural stria obsolete apically and basally; other striae not present; disc subrugose, punctures moderately coarse but more sparser than on the thoracic disc; apex of each elytron broadly truncate. Pygidium convex, the surface pruinose at base, and polished apically; punctures rather regularly placed, moderately dense, and moderately coarse, the basal area with short and erect hairs. Abdomen flattened and pruinose at middle; 5th segment plane; 6th segment one-half the length of

the 5th and with a conspicuous longitudinal sulcus. First segment of hind and middle tarsi slightly longer than the second. All claws similar, each pectinate along a single margin, the pectinations rather small, and without any larger intercalated teeth. Male genitalia bilaterally symmetrical, and of rather simple design, the lateral lobes subparallel and contiguous at tips but not joined, their apices bluntly but acutely rounded. Length 10.5 mm. Width 5.7 mm.

The unique male *Holotype* was collected for me by A. Meade at "Valerio Trujano, Oaxaca, Mexico, on July 27, 1937" and remains in my collection. The species is not closely related to any of the described forms.

**Phyllophaga (*Listrochelus*) *durango*, new species.**

*Male*.—Oblong ovate, rufocastaneous, thorax rufous. Elytra pruinose, otherwise shining above. Thorax glabrous. Clypeus and front with moderately coarse punctures, those of clypeus very dense, those of front much less dense, the latter with several short and erect hairs. Clypeus long, apex truncate and somewhat reflexed, the angles very broadly rounded; elypeal suture forming two complete sinuations, the surface just basally of the suture, on the front, with a narrow impunctate band. Antenna castaneous, unicolorous, 10-segmented; club about one-fifth longer than the funicle. Thorax with the sides straight before and behind the semi-arcuate median dilation and with very long cilia, the margin also crenate in apical half of thorax and subcrenate in basal half; front and hind angles obtusely subangulate; base with complete marginal line; disc with fine and moderately dense punctures, these closer along the front margin. Elytron without stria except for the well-developed sutural stria; surface subrugose, the disc with fine and moderately dense punctures and sparse erect hairs, those at base moderately long and decreasing apically where they are very much shorter; lateral margins with moderately dense cilia. Pygidium convex, polished except for a small basal pruinose area; disc with very fine and dense punctures and each bearing a long and erect brownish hair. Abdomen flattened, faintly concave at middle and semipolished; 5th segment with a slight longitudinal median sulcus in the apical portion; 6th with distinct longitudinal sulcus. All claws pectinate along a double margin, the pectinations of moderate size and each claw with a larger, narrow, intercalated tooth at about the middle. First segment of the hind tarsus subequal to, or faintly shorter than, the second. Male genitalia bilaterally symmetrical, the lateral lobes (in en face view) subparallel but not contiguous at apex, and each with a blunt triangular tooth arising from the upper margin and situated just before the apex, this tooth pointing outwardly from the center; sides of each lateral lobe concave. Hind tarsi longer than the tibia.

*Female*.—Antennal club ovate; pygidium very convex and highly polished, with very short and sparse hairs; abdomen semiconvex, all tarsal claws with a strong median tooth, the surface between this tooth and the base minutely dentate along a single margin; hind tarsi equal to the tibia, otherwise similar to the male. Length 14.5 mm. Width 7.5 mm.



The *Holotype* male and *Allotype* female, both in the Saylor Collection, are from "Durango, Durango, Mexico." This species is closely related to *L. durangoensis* Moser but differs especially in the smaller size, different color, longer male antennal club, non-minute elytral hair, and the first elytral costa is not distinct.

**Phyllophaga (*Listrochelus*) bueta**, new species

*Male*.—Oblong oval, thorax shining, elytra pruinose, glabrous above except for the minute elytral hairs. Coloration rufocastaneous, the thorax rufous. Clypeus and front with very dense, contiguous, moderately coarse, variolate punctures; vertex with a moderate transverse carina. Clypeus rather long, the apex nearly truncate and hardly reflexed, the angles narrowly rounded. Antenna rufotestaceous, 10-segmented; club one-sixth longer than the funicle. Thorax with sides faintly crenulate, with moderately long cilia; sides straight before and behind the moderate median dilation; base with entire marginal line, apical marginal line thickened and entire; front angles obtuse, hind angles obtusely rounded; disc with moderately fine, somewhat sparse punctures, and with a faint indication of a median impunctate area. Elytron with a well-developed sutural stria and with a second stria starting two-fifths of the way from the base and continuing apically, becoming obsolete at the apical umbo, the latter stria also widening constantly towards the apex and becoming four times wider at the apex than at the base; disc punctured as thorax, the punctures slightly closer at sides and with minute hairs in the punctures. Pygidium polished, convex, with sparse fine punctures and with short suberect hairs. Abdomen flattened, pruinose at middle and sides; 5th segment plane; 6th segment two-fifths the length of the 5th, and more coarsely punctate. Spurs of hind and middle tibia slender, one nearly twice the length of the other. First segment of the hind and middle tarsi slightly longer than the second. All claws with a very small triangular tooth situated just slightly basad from the middle, the surface between the tooth and the base slightly crenate. Front tibia slender and tridentate, the teeth approximately equidistant. Male genitalia entirely bilaterally symmetrical, the lateral lobes not joined nor contiguous at tips, but consisting each of a bluntly rounded lobe; aedeagus strongly chitinized and with a narrow spur at apex which is bidentate at the tip. Length 12.5 mm. Width 6.5–7 mm.

The *Holotype* and *Paratype*, both males, are from "Buena Vista, Sierra de la Encantada Mts., Coahuila, Mexico, elevation 7000 feet, coll. July 7, 1938, by R. H. Baker," and were presented to me by the collector. They remain in the Saylor Collection. This species is most closely related to *texensis* Saylor, but can be distinguished by the non-impressed abdomen, less convex pygidium, much more obvious elytral striae and the different male genitalia.

**Phyllophaga (*Phytalus*) guatemala**, new species.

*Male*.—Elongate, subparallel. Strongly shining and apparently glabrous above. Color rufotestaceous, the head and thorax rufous. Clypeus and front coarsely, variolately and rather densely punctate, vertex smooth and

impunctate. Clypeus rather long, apex narrowly emarginate, giving a bilobed appearance, the angles very widely rounded, apex not reflexed. Antenna 10-segmented, and quite large, segment 7 transverse; club slightly longer than the entire stem. Thorax with sides parallel behind the slight median dilation, straight and convergent in front of the dilation, the margins with sparse cilia; front angles obtuse but distinct; hind angles nearly rectangular; base with a complete marginal line; disc sparsely and not coarsely punctured, more closely punctate near sides and front margins. Elytra punctured as thoracic disc, slightly rugose. Pygidium slightly convex, highly polished, faintly rugose, with very sparse and irregularly placed, fine punctures, with a few short hardly obvious testaceous hairs; apex distinctly and narrowly rounded, the margin reflexed and ciliate. Abdomen highly polished, glabrous at middle and the latter widely but faintly concave; 5th segment plain; 6th three-fourths the length of the 5th and very faintly and longitudinally concave at middle, with a few coarse and setigerous punctures near the sides. Claws all very finely cleft, the apical tooth noticeably shorter and also less robust than the lower tooth. (Lower spurs of hind tibia lacking in type, apparently broken off.) Upper spur of hind tibia rather long and robust and very strongly curved at about the middle. First two segments of the hind tarsi nearly equal in length. Male genitalia bilaterally symmetrical, rather simple in structure and with the tip of each lateral lobe somewhat hairy; aedeagus strongly chitinized and moderately large. Length 18.5 mm. Width 8 mm.

The unique male *Holotype*, from "Guatemala," remains in the Saylor Collection. This species differs from all described *Phytalus* known to me in the presence of the long and curved hind spur, much as in our *Phyllophaga hamata* and *P. torta*.

#### **Phyllophaga (Phytalus) oaxaca**, new species.

*Male*.—Oblong ovate, shining and glabrous above. Color rufocastaneous, the thorax more rufous. Front and clypeus with somewhat coarse variolate punctures, these dense on clypeus and much sparser on front. Clypeus flat and transverse, the apex subtruncate and slightly reflexed, the angles very broadly rounded. Antenna 10-segmented, unicolorous castaneous; club subequal to funicle. Thorax with sides straight and subcrenate behind and before the arcuate median dilation, with very sparse and short cilia; front and hind angles obtusely angulate, the former somewhat more distinctly indicated; base not margined, front marginal line thickened; disc with small, sparse variolate punctures, these separated by one to three times their diameters on disc and a little closer at sides. Elytron with or without striae other than the well-developed sutural stria,—often with a second stria weakly indicated; disc with fine and very sparse punctures, these denser at sides. Pygidium polished, slightly convex, and apparently glabrous; disc with moderately sparse and variolate punctures. Abdomen polished and glabrous at middle, and slightly gibbose; 5th segment with a wide, shallow, and declivous fovea starting at the center base, the surface of the fovea with fine, dense, transverse granulations, the sides of the fovea raised and semi-carinate; 6th segment one-



third the length of the 5th, and transversely impressed, the apical and basal margin faintly carinate. All claws finely cleft, the upper tooth as long as, and slightly broader than, the apical, the tip of the upper tooth obliquely truncate. Hind tibial spurs free and graceful. First segment of hind tarsus shorter than the second. Male genitalia very simple, bilaterally symmetrical, somewhat tube shaped, though short.

*Female*.—Pygidium flatter, and slightly more densely punctate; abdomen with 5th and 6th segments plane and densely punctate; antennal club moderately long and equal to segments 3-7 combined; second costa of elytron usually well indicated and widening considerably in the apical third. Otherwise as in the male. Length 11-14.5 mm. Width 5.2-7.8 mm.

The *Holotype* male and *Allotype* female, and numerous *Paratypes*, from "Oaxaca City, Oaxaca, Mexico, 5000 feet, July 16-25, 1937," and collected for me by Al Meade and Mel Embury, remain in the Saylor Collection. *Paratypes* will be deposited in the United States National Museum. This species is closely related to *nubipennis* Bates, but may be separated by the non-wrinkled and less densely punctate pygidium, much less densely punctured elytra and less obvious striae (1st stria, if present, indistinct and broad, not distinct and very narrow), more coarsely crenate thoracic margins in the apical half, much more distinct and deeper 5th abdominal fovea, and somewhat different male genitalia.